



Southeast Europe Energy Efficiency Project

FINAL REPORT

SEPTEMBER 2005

Prepared under Contract for:

United States Agency for International Development
LAG-I-00-98-00006-00
Task Order 23865-109

Prepared by:

Nexant, Inc.

Introduction

In September 2000, the United States Agency for International Development contracted Bechtel National Inc. (Nexant Inc.) under contract number LAG-I-00-98-00006-00, task order number 109 to help promote commercial lending for bankable energy efficiency projects in Southeast Europe. The project continued until its anticipated completion date, after contract modification, of December 2004.

Through the Southeast Europe Energy Efficiency Project (SE4), direct technical assistance and commodities in the value of \$7.2 million were provided to the following countries of the region: the Former Yugoslav Republic of Macedonia (FYROM), Bulgaria, Croatia, and Serbia and the following major outputs realized:

Regional:

- assisted the Black Sea Trade and Development Bank develop a credit line for implementing energy efficiency retrofits of Municipal Buildings in Sofia, Bulgaria through review and development of tender documents for ESCO services
- undertook project development activities in support of developing a regional DCA financing mechanism for municipal-based Energy Efficiency projects

Country Specific:

Bulgaria:

- helped leverage approximately \$120 million investment funding for upgrading the Sofia Municipality's District Heating Company
- completed a Comparative Assessment of Private Sector Participation options for the largest Municipally-owned Energy Service company in Bulgaria
- developed the World's first Management Contract and associated tender documents for a Municipally-owned Energy Service Company

Croatia:

- examined the feasibility of a National Mechanism for procuring Energy Services
- prepared a Master Energy Plan for the Municipality of Rijeka

FYROM:

- Prepared a National Energy Efficiency Strategy

Serbia:

- Completed the Serbia Emergency Energy Efficiency Program, which included:
 - 22 technology demonstration projects in 5 Serbian Municipalities
 - Provided support to the Serbia "SAVE" Energy Efficiency Promotion & Outreach Campaign that reduced electric demand by some 2 Gigawatthours in the 2002 heating season
- Prepared a Feasibility Study, Business Plan and Operating Manual for the Serbian Energy Efficiency Fund

Background

At inception the stated USAID's objective was for the project to promote commercial lending for bankable energy efficiency projects in Southeast Europe and by provision of a series of discrete technical assistance activities, Nexant Inc. would help facilitate the financing by commercial and IFI lenders of a series of energy efficiency investments with emphasis on the municipal/public sector.

USAID Strategic Objectives

If successful in achieving the stated objective then the project would serve to support the Regional Strategic Objective SO1.5 A More Economically Sound and Environmentally Sustainable Energy System and Improved energy efficiency and reduced emissions in Industry, Buildings and Power and Heating Systems, as well as having linkages to SSO2.3 More Effective, Responsive and Accountable Local Governance.

Nexant Inc.'s Task Order

The technical assistance Nexant Inc. was expected to provide was to be categorized as follows:

1. Commercial Demonstration Projects in Selected Municipalities
2. Development of Replicable Efficiency Improvement Programs for Public Sector Facilities
3. Private Energy Services Company Project Financing from Regionally Available Sources
4. Regional Financing Mechanisms
5. Rollout of Municipal Programs
6. Regional Training, Institution-building and Legislative Initiatives

The anticipated outputs from the above were respectively:

- One or more municipal projects developed for financing
- One or more business plans for programs of "bundled" investments submitted for funding
- Projects developed and submitted for financing by at least one ESCO in the region
- One new regional financing mechanism created
- One country-wide rollout of municipal projects
- A training plan
- Three or more memoranda on review of legislative initiatives or national energy efficiency strategy
- Three or more seminars on qualification of projects to meet implementation criteria under UNFCC

Project Outputs

The key outputs of the project are presented below in the respective category in which they can be classified. Side boxes detail some of the major accomplishments during the life of the project.

Category 1: Commercial Demonstration Projects in Selected Municipalities

Under this category, the major project initiative was to help the Municipality of Sofia, Bulgaria, facilitate securing financing from both the EBRD and the World Bank to implement energy efficiency in the Municipally-owned Sofia District Heating Company. Approximately \$120 million was secured comprising a mix of loans and grants¹. The money was targeted towards investments that would i) improve quality of service, ii) improve the financial position of the Company and iii) improve affordability of district heating services.

Discussions and work toward securing the financing from the two banks had been on-going since 1994. The USAID was approached by the Municipality for assistance and Nexant began its work in May 2002. Before the end of the project loans had been concluded by the Municipality with both Banks and implementation of the improvements was well enough advanced that two of the three objectives had been realized (objectives i) and ii)).

Funding Secured for Energy Efficiency Improvements at Sofia District Heating Company

Technical assistance was provided through SE4 to help facilitate major funding for energy efficiency improvements in the Sofia District Heating Company.

The technical assistance was associated with introducing the private sector into the operations and management of this Municipally-owned energy service company and consisted of the conduct of a Comparative Assessment of PSP options, a Market Survey of PSP options in the district heating sector, and the development of the World's first tender package for a Management Contractor for a Municipally-owned District Heating entity.

Category 2: Development of Replicable Efficiency Improvement Programs for Public Sector Facilities

Working in collaboration with the Ministry of Health and Energy Institute, the project examined the feasibility of developing a National Mechanism for procuring Energy Services for public sector facilities in Croatia. The approach involved using the tendering for energy services at a Zagreb hospital to serve as a pilot project for the procurement mechanism. As part of the feasibility study it was necessary to undertake an evaluation of a new public sector procurement law that came into force in 2003.

In addition, the project assisted the Municipality of Rijeka in developing an energy management plan for the Municipal facilities. As part of the process, the municipal buildings were audited to assess opportunities and priorities for energy efficiency within their facilities.

¹ In August 2002, the EBRD and Sofia Municipality signed a €30 loan agreement for rehabilitation of the existing district heating network, guaranteed by the Republic of Bulgaria, as part of a €14 million project. Additional funding was eventually secured from the World Bank (€26 million), Toplofikacija Sofia (€26 million) and the Kozoloduy International Decommissioning Support Fund (€30 million).

Category 3: Private Energy Services Company Project Financing from Regionally Available Sources

During 2000/2001, Nexant provided technical assistance and helped facilitate the first energy efficiency transaction undertaken by the Black Sea Trade and Development Bank as they put in place a line of credit for implementing energy efficiency retrofits of Municipal Buildings in Sofia, Bulgaria. A major highlight of the proposed implementation arrangement was that the retrofits were to be done by ESCOs. Nexant advised the bank and assisted the Municipality in developing tender documents that were used by the Municipality to contract with a local private ESCO. The initial line of credit was to be some \$1.5 million, with an option for expanding up to \$50 million.

Category 4: Regional Financing Mechanisms

Starting in October 2001, the project worked diligently to undertake project development activities in support of developing a regional DCA financing mechanism for municipal-based Energy Efficiency projects. One commercial financing organization initially expressed interest and meetings were held with the senior management both at the country-specific and regional level to fully understand their needs and requirements prior to signing the DCA facility.

The project completed a number of associated activities including scooping opportunities that could potentially become a project pipeline for the DCA facility. However, the bank decided not to proceed with the facility. Other alternate organizations were identified and sounded out but no one entity could be found that satisfied the regional requirements.

As alternates to the commercial financing entities, the project sort to engage private sector international ESCO companies but also to no avail.

The project did support the development of a fund for energy efficiency activities by examining the feasibility for an energy efficiency fund for Serbia, as a complement to on-going World Bank initiatives in the energy efficiency arena. Following acceptance of the study, the project was asked to support the Serbia Energy Efficiency Agency in developing a Business Plan and Operating Manual for the Fund.

Category 5: Rollout of Municipal Programs

The single largest programmatic initiative undertaken by the project was the implementation of the Serbia Emergency Energy Efficiency Program (SEEEP). The program included Nexant establishing and staffing a program office within Belgrade and completing a series of 22 technology demonstration projects in 5 different Serbian Municipalities. The program was successfully completed with all procurements for the goods and services being sourced from the local market.

The program complimented the work of the Alliance to Save Energy who were responsible for promoting the program to Municipalities within Serbia and the region through the MUNEE network.

In addition to the technology demonstrations the project provided support to the Serbia “SAVE” Energy Efficiency Promotion & Outreach Campaign that reduced electric demand by some 2 Gigawatthours in the 2002 heating season

Category 6: Regional Training, institution-building and Legislative Initiatives

Comparative Assessment of PSP Options

At the request of the Municipality of Sofia, Nexant developed a financial model in completing a comparative assessment of Private Sector Participation options for the Municipally-owned Sofia District Heating Company. The assessment which included considered all associated legal, financial, technical and regulatory issues surrounding five PSP options.

Based upon the recommendation of the Comparative Assessment, the Sofia Municipal Council voted to develop the world's first Management Contract tender for a Municipally-owned District Heating Company.

Several initiatives of the category were completed by the project including completion of a Comparative Assessment of Private sector Participation options for the largest Municipally-owned Energy Service company in Bulgaria, the preparation of a National Energy Efficiency Strategy for the Former Yugoslav Republic of Macedonia and the development of the World's first Management Contract and associated tender documents for a Municipally-owned Energy

Service Company.

In addition, we developed training and capacity building programs as part of the activities described in the previous sections. For example, in Serbia as part of the SEEPP, training needs were identified and training courses provided to facility engineers and staff involved in maintaining and operating the new technologies installed. In Croatia, training was provided to staff of the Municipality of Rijeka on the use of the energy management/energy use data base developed as part of the energy plan.

Lessons Learned

There were several key lessons learned during the implementation of the project. These are presented and discussed below.

Lesson 1: Few Private Commercial Financing Institutions Operate Regionally

In trying to develop a DCA-based Financing Mechanism for the region, a lot of time and effort was devoted to find an appropriate commercial financing institution that operated in a truly regional manner. Although there are a number of commercial entities that are operating within the region, there is only one or two that served each of the countries considered as the focus of the project's efforts. Even these entities typically functioned at a country-specific level, with branches within a particular country having its own criteria under which its business decisions were determined.

Even after initiatives were conducted to address concerns expressed by the various financing institutions, such as assessing likely project pipelines, it was not possible to identify a financing institution that met the regional-based criteria and that was willing to execute an agreement with USAID for the DCA facility.

Lesson 2: Few Municipalities are able to secure significant EE Financing

With very few exceptions – possibly Sofia in Bulgaria, Zagreb and Rijeka in Croatia and Belgrade in Serbia and some Municipalities in Romania – most Municipalities face major challenges in being able to raise financing for investments in general and energy efficiency in particular. Very few have considered issuing bonds (Sofia has been at the forefront) and/or have credit ratings. With the commercial financing entities preferring to focus on private sector investments, there is relatively little capital investment being made by the Municipalities of the region.

Lesson 3: Municipalities are not “Alike”

Municipalities across the region vary in terms of size, relative budget and responsibility and capacity to deliver the duties and services with which they are charged. For example, most Municipalities in Croatia, with some notable exceptions, are highly indebted and still highly controlled by central government. In FYROM, Municipalities do not have consistent levels of responsibility – a Municipality there can be simply managing street lighting or alternatively having to provide more typical municipal services.

In addition, many Municipalities are still adjusting with the devolution of power from central to local government. Many Municipalities are still striving to address management issues such as budgeting and revenue collection and have little notion of how to address energy management issues and they are more concerned with developing their own management information systems and finance, budget and accounting practices and procedures with the consequence that energy efficiency is often not on their priority list.

Lesson 4: There are very few ESCOS servicing the Region as a Whole

As with the commercial financing sector, there are very few private sector ESCOs that are pursuing business throughout all countries of the region. Those organizations that are operating in more than one country – Dalkhia and RWE – tend to concentrate on one or two countries that they are targeting. Discussions were held with such entities on a number of occasions to determine their business plans and marketing strategies. Given the commercial nature of this information, they were reluctant to share too much of their thinking with the project but they did indicate that in most of the countries, the lack of consistent policies promoting energy efficiency were a barrier to expanding operations. Both were focused predominantly on the public sector market and preferred concession-type arrangements involving large energy service systems, rather than pursuing the more typical performance contracting approach.

Recommendations

In the following paragraphs we present recommendations that may be considered for future programs.

Recommendation 1: Use the MUNEE to promote Success

The project undertook several initiatives that can be used regionally. However, there was no formal mechanism developed within the project through which information could be channeled regionally. However, the USAID has supported the development of the MUNEE which is a perfect vehicle to channel information to the region's Municipalities.

Recommendation 2: Promote Replication within the Region

The replication potential for several activities is high, notably for improving the energy efficiency performance of district heating companies. Opportunity should be made to promote the results of the work undertaken through regional seminars and workshops. One instance of this was done at a seminar in Prague where project staff made a presentation of the findings of the Comparative Assessment for PSP options in 2002.

Recommendation 3: Integrate Supply and Demand side Initiatives

In Bulgaria, the project had the opportunity to work closely with the Municipality of Sofia on energy supply and demand-side issues. Although the activities, did not take place concurrently, the work to facilitate a line of credit for implementing energy efficiency improvements in Municipal buildings preceding the work to facilitate funding for the Sofia District Heating Company, there is great merit in examining both sides – supply and demand – simultaneously particularly in light of the changing regulatory climate currently transpiring within the region and the fact that both are impacted by these changes. By adopting a “holistic” approach to implementing energy efficiency within public sector institutions that integrates the supply and demand side then more cost effective and sustainable solutions to the challenges the sector faces can be found.